WHAT IS CLAIMED IS:

1. An electron beam aligner comprising:

a substrate holder provided within a chamber for holding a semiconductor substrate on a surface of which a resist film is formed;

electron beam irradiation means for fully irradiating said resist film with an electron beam; and

gas collection means provided on said chamber for collecting an outgassing released from said resist film when irradiated with said electron beam.

2. The electron beam aligner of Claim 1, further comprising gas analysis means for analyzing a constituent of said outgassing collected by said gas collection means.

3. An electron beam aligner comprising:

a substrate holder provided within a chamber for holding a semiconductor substrate on a surface of which a resist film is formed;

electron beam irradiation means for fully irradiating said resist film with an electron beam; and

gas analysis means provided on said chamber for analyzing a constituent of an outgassing released from said resist film when irradiated with said electron beam.

4. An outgassing collection method comprising the steps of:

holding, within a chamber, a semiconductor substrate on

a surface of which a resist film is formed;

fully irradiating said resist film with an electron beam; and

collecting an outgassing released from said resist film when irradiated with said electron beam.

5. An outgassing analysis method comprising the steps of:

holding, within a chamber, a semiconductor substrate on a surface of which a resist film is formed;

fully irradiating said resist film with an electron beam;

collecting an outgassing released from said resist film when irradiated with said electron beam; and

analyzing a constituent of said collected outgassing.

6. An outgassing analysis method comprising the steps of:

holding, within a chamber, a semiconductor substrate on a surface of which a resist film is formed;

fully irradiating said resist film with an electron beam; and

analyzing a constituent of an outgassing released from said resist film when irradiated with said electron beam.